

**This Page Is Inserted by IFW Operations
and is not a part of the Official Record**

BEST AVAILABLE IMAGES

**Defective images within this document are accurate representations of
the original documents submitted by the applicant.**

Defects in the images may include (but are not limited to):

- **BLACK BORDERS**
- **TEXT CUT OFF AT TOP, BOTTOM OR SIDES**
- **FADED TEXT**
- **ILLEGIBLE TEXT**
- **SKEWED/SLANTED IMAGES**
- **COLORED PHOTOS**
- **BLACK OR VERY BLACK AND WHITE DARK PHOTOS**
- **GRAY SCALE DOCUMENTS**

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

#2

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

3 <110> APPLICANT: TALL, ALAN R
4 WELCH, CARRIE L
5 LIANG, CHIEN-PING
7 <120> TITLE OF INVENTION: ATHEROSCLEROSIS SUSECPTIBILITY GENE LOCUS 1 (ATHSQ1) AND
ATHEROSCLEROSIS
8 SUSCEPTIBILITY GENE LOCUS 2 (ATHSQ2)
10 <130> FILE REFERENCE: 0575/64077
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/898,554
C--> 12 <141> CURRENT FILING DATE: 2001-07-02
12 <160> NUMBER OF SEQ ID NOS: 40
14 <170> SOFTWARE: PatentIn version 3.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 25
18 <212> TYPE: DNA
19 <213> ORGANISM: Artificial Sequence ✓
21 <220> FEATURE:
22 <223> OTHER INFORMATION: Primer ✓
24 <400> SEQUENCE: 1
25 accccaagac gtgctcccag gatga 25
28 <210> SEQ ID NO: 2
29 <211> LENGTH: 24
30 <212> TYPE: DNA
31 <213> ORGANISM: Artificial Sequence ✓
33 <220> FEATURE:
34 <223> OTHER INFORMATION: Primer ✓
36 <400> SEQUENCE: 2
37 cgcagtgctc ctcacatctgac ttgt 24
40 <210> SEQ ID NO: 3
41 <211> LENGTH: 25
42 <212> TYPE: DNA
43 <213> ORGANISM: Artificial Sequence ✓
45 <220> FEATURE:
46 <223> OTHER INFORMATION: Primer ✓
48 <400> SEQUENCE: 3
49 aggatctcgt cgtgacccat ggcga 25
52 <210> SEQ ID NO: 4
53 <211> LENGTH: 26
54 <212> TYPE: DNA
55 <213> ORGANISM: Artificial Sequence ✓
57 <220> FEATURE:
58 <223> OTHER INFORMATION: Primer ✓
60 <400> SEQUENCE: 4
61 gagcgcgcat accgtaaagc acgagg 26
64 <210> SEQ ID NO: 5
65 <211> LENGTH: 17
66 <212> TYPE: DNA
67 <213> ORGANISM: Artificial Sequence ✓
69 <220> FEATURE:

ENTERED

ENTERED

p. 5

RAW SEQUENCE LISTING

DATE: 07/23/2001

PATENT APPLICATION: US/09/898,554

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

```

70 <223> OTHER INFORMATION: Primer ✓
72 <400> SEQUENCE: 5
73 tgtgctgatg caggcac 17
76 <210> SEQ ID NO: 6
77 <211> LENGTH: 20
78 <212> TYPE: DNA
79 <213> ORGANISM: Artificial Sequence ✓
81 <220> FEATURE:
82 <223> OTHER INFORMATION: Primer ✓
84 <400> SEQUENCE: 6
85 gagaggaatg ctggtaggca 20
88 <210> SEQ ID NO: 7
89 <211> LENGTH: 23
90 <212> TYPE: DNA
91 <213> ORGANISM: Artificial Sequence ✓
93 <220> FEATURE:
94 <223> OTHER INFORMATION: Primer ✓
96 <400> SEQUENCE: 7
97 gatgtcagaa tacagataca gca 23
100 <210> SEQ ID NO: 8
101 <211> LENGTH: 20
102 <212> TYPE: DNA
103 <213> ORGANISM: Artificial Sequence ✓
105 <220> FEATURE:
106 <223> OTHER INFORMATION: Primer ✓
108 <400> SEQUENCE: 8
109 gttgcagtgg caccctttaa 20
112 <210> SEQ ID NO: 9
113 <211> LENGTH: 30
114 <212> TYPE: DNA
115 <213> ORGANISM: Artificial Sequence ✓
117 <220> FEATURE:
118 <223> OTHER INFORMATION: Primer ✓
120 <400> SEQUENCE: 9
121 atgacttttg atgacaagat gaagcctgcg 30
124 <210> SEQ ID NO: 10
125 <211> LENGTH: 30
126 <212> TYPE: DNA
127 <213> ORGANISM: Artificial Sequence ✓
129 <220> FEATURE:
130 <223> OTHER INFORMATION: Primer ✓
132 <400> SEQUENCE: 10
133 cttctcatgg tcttctccag aatctttaga 30
136 <210> SEQ ID NO: 11
137 <211> LENGTH: 1092
138 <212> TYPE: DNA
139 <213> ORGANISM: Murinae gen. sp.
141 <220> FEATURE:
142 <221> NAME/KEY: misc_feature

```

RAW SEQUENCE LISTING

DATE: 07/23/2001

PATENT APPLICATION: US/09/898,554

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

143 <223> OTHER INFORMATION: B-Isoform 1

146 <400> SEQUENCE: 11

147	atgacttttg	atgacaagat	gaagcctg	aatgacgagc	ctgatcagaa	gtcatgtggc	60
149	aagaagccta	aaggtctgca	tttgctttct	tccccatggt	ggttccctgc	tgctatgact	120
151	ctggatcatcc	tctgcctggt	gttgctcagt	acccttattg	tacagtggac	acaattacgc	180
153	caggatatctg	acctcttaaa	acaataccaa	gcgaacctta	ctcagcagga	tcgtatcctg	240
155	gaagggcaga	tgtagccca	gcagaaggca	gaaaacactt	cacaggaatc	aaagaaggaa	300
157	ctgaaaggaa	agatagacac	cctcaccag	aagctgaacg	agaaatccaa	agagcaggag	360
159	gagcttctac	agaagaatca	gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	420
161	gaggagtccc	agagagaact	caagggaaag	atagacacca	tcaccggaa	gctggacgag	480
163	aaatccaaag	agcaggagga	gcttctcag	atgattcaga	acctccaaga	agccctgcag	540
165	agagctgcaa	actcttcaga	ggagtcccag	agagaactca	agggaaagat	agacaccctc	600
167	accttgaagc	tgaacgagaa	atccaaagag	caggaggagc	ttctacagaa	gaatcagaac	660
169	ctccaagaag	ccctgcaaag	agctgcaaac	ttttcaggtc	cttgctccaca	agactggctc	720
171	tggcataaag	aaaactgtta	cctcttccat	gggcccctta	gctgggaaaa	aaaccggcag	780
173	acctgccaat	ctttgggtgg	ccagttacta	caaattaatg	gtgcagatga	tctgacattc	840
175	atcttacaag	caatttccca	taccacctcc	ccgttctgga	ttggattgca	tcggaagaag	900
177	cctggccaac	catggctatg	ggagaatgga	actcctttga	attttcaatt	ctttaagacc	960
179	aggggcgttt	ctttacagct	actcctttga	attttcaatt	ctttaagacc	aggggcgttt	1020
181	ctttacagct	aaaactgcat	tctaattgca	ttcagcatat	gtcagaagaa	gacaaatcat	1080
183	ttgcaaattt	ag					1092

186 <210> SEQ ID NO: 12

187 <211> LENGTH: 1192

188 <212> TYPE: DNA

189 <213> ORGANISM: Murinae gen. sp.

191 <220> FEATURE:

192 <221> NAME/KEY: misc_feature

193 <223> OTHER INFORMATION: M-Isoform 1

196 <400> SEQUENCE: 12

197	atgacttttg	atgacaagat	gaagcctg	aatgacgagc	ctgatcagaa	gtcatgtggc	60
199	aagaagccta	aaggtctgca	tttgctttct	tccccatggt	ggttccctgc	tgctatgact	120
201	ctggatcatcc	tctgcctggt	gttgctcagt	acccttattg	tacagtggac	acaattacgc	180
203	caggatatctg	acctcttaaa	acaataccaa	gcgaacctta	ctcagcagga	tcgtatcctg	240
205	gaagggcaga	tgtagccca	gcagaaggca	gaaaacactt	cacaggaatc	aaagaaggaa	300
207	ctgaaaggaa	agatagacac	cctcaccag	aagctgaacg	agaaatccaa	agagcaggag	360
209	gagcttctac	agaagaatca	aagctgaacg	agaaatccaa	agagcaggag	gagcttctac	420
211	agaagaatca	gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	gaggagtccc	480
213	gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	gaggagtccc	agagagaact	540
215	caagggaaag	atagacacca	tcaccggaa	gctggacgag	aaatccaaag	agcaggagga	600
217	gcttctgcag	atgattcaga	acctccaaga	agccctgcag	agagctgcaa	actcttcaga	660
219	ggagtcccag	agagaactca	agggaaagat	agacaccctc	accttgaagc	tgaacgagaa	720
221	atccaaagag	caggaggagc	ttctacagaa	gaatcagaac	ctccaagaag	ccctgcaaag	780
223	agctgcaaac	ttttcaggtc	cttgctccaca	agactggctc	tggcataaag	aaaactgtta	840
225	cctcttccat	gggcccctta	gctgggaaaa	aaaccggcag	acctgccaat	ctttgggtgg	900
227	ccagttacta	caaattaatg	gtgcagatga	tctgacattc	atcttacaag	caatttccca	960
229	taccacctcc	ccattctgga	ttggattgca	tcggaagaag	cctggccaac	catggctatg	1020
231	ggagaatgga	actcctttga	attttcaatt	ctttaagacc	aggggcgttt	ctttacagct	1080
233	atattcatga	ggcaactgtg	cataccttca	agacggagct	gtgttcgctg	aaaactgcat	1140
235	tctaattgca	ttcagcatat	gtcagaagaa	gacaaatcat	ttgcaaattt	ag	1192

RAW SEQUENCE LISTING

DATE: 07/23/2001

PATENT APPLICATION: US/09/898,554

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

```

238 <210> SEQ ID NO: 13
239 <211> LENGTH: 744
240 <212> TYPE: DNA
241 <213> ORGANISM: Murinae gen. sp.
243 <220> FEATURE:
244 <221> NAME/KEY: CDS
245 <222> LOCATION: (1)..(744)
246 <223> OTHER INFORMATION:
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <223> OTHER INFORMATION: Isoform 7
254 <400> SEQUENCE: 13
255 atg act ttt gat gac aag atg aag cct gcg aat gac gag cct gat cag      48
256 Met Thr Phe Asp Asp Lys Met Lys Pro Ala Asn Asp Glu Pro Asp Gln
257 1          5          10          15
259 aag tca tgt ggc aag aag cct aaa gag gag tcc cag aga gaa ctc aag      96
260 Lys Ser Cys Gly Lys Lys Pro Lys Glu Glu Ser Gln Arg Glu Leu Lys
261          20          25          30
263 gga aag ata gac acc atc acc cgg aag ctg gac gag aaa tcc aaa gag      144
264 Gly Lys Ile Asp Thr Ile Thr Arg Lys Leu Asp Glu Lys Ser Lys Glu
265          35          40          45
267 cag gag gag ctt ctg cag atg att cag aac ctc caa gaa gcc ctg cag      192
268 Gln Glu Glu Leu Leu Gln Met Ile Gln Asn Leu Gln Glu Ala Leu Gln
269          50          55          60
271 aga gct gca aac tct tca gag gag tcc cag aga gaa ctc aag gga aag      240
272 Arg Ala Ala Asn Ser Ser Glu Glu Ser Gln Arg Glu Leu Lys Gly Lys
273 65          70          75          80
275 ata gac acc ctc acc ttg aag ctg aac gag aaa tcc aaa gag cag gag      288
276 Ile Asp Thr Leu Thr Leu Lys Leu Asn Glu Lys Ser Lys Glu Gln Glu
277          85          90          95
279 gag ctt cta cag aag aat cag aac ctc caa gaa gcc ctg caa aga gct      336
280 Glu Leu Leu Gln Lys Asn Gln Asn Leu Gln Glu Ala Leu Gln Arg Ala
281          100          105          110
283 gca aac ttt tca ggt cct tgt cca caa gac tgg ctc tgg cat aaa gaa      384
284 Ala Asn Phe Ser Gly Pro Cys Pro Gln Asp Trp Leu Trp His Lys Glu
285          115          120          125
287 aac tgt tac ctc ttc cat ggg ccc ttt ggc tgg gaa aaa aac cgg cag      432
288 Asn Cys Tyr Leu Phe His Gly Pro Phe Gly Trp Glu Lys Asn Arg Gln
289          130          135          140
291 acc tgc caa tct ttg ggt ggc cag tta cta caa att aat ggt gca gat      480
292 Thr Cys Gln Ser Leu Gly Gly Gln Leu Leu Gln Ile Asn Gly Ala Asp
293 145          150          155          160
295 gat ctg aca ttc atc tta caa gca att tcc cat acc acc tcc cca ttc      528
296 Asp Leu Thr Phe Ile Leu Gln Ala Ile Ser His Thr Thr Ser Pro Phe
297          165          170          175
299 tgg att gga ttg cat cgg aag aag cct ggc caa cca tgg cta tgg gag      576
300 Trp Ile Gly Leu His Arg Lys Lys Pro Gly Gln Pro Trp Leu Trp Glu
301          180          185          190
303 aat gga act cct ttg aat ttt caa ttc ttt aag acc agg ggc gtt tct      624

```

RAW SEQUENCE LISTING

DATE: 07/23/2001

PATENT APPLICATION: US/09/898,554

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

```

304 Asn Gly Thr Pro Leu Asn Phe Gln Phe Phe Lys Thr Arg Gly Val Ser
305      195      200      205
307 tta cag cta tat tca tca agc aac tgt gca tac ctt caa gac gga gct      672
308 Leu Gln Leu Tyr Ser Ser Ser Asn Cys Ala Tyr Leu Gln Asp Gly Ala
309      210      215      220
311 gtg ttc gct gaa aac tgc att cta att gca ttc agc ata tgt cag aag      720
312 Val Phe Ala Glu Asn Cys Ile Leu Ile Ala Phe Ser Ile Cys Gln Lys
313 225      230      235      240
315 aag aca aat cat ttg caa att tag      744
316 Lys Thr Asn His Leu Gln Ile
317      245
320 <210> SEQ ID NO: 14
321 <211> LENGTH: 247
322 <212> TYPE: PRT
323 <213> ORGANISM: Murinae gen. sp.
325 <220> FEATURE:
326 <221> NAME/KEY: misc_feature
327 <223> OTHER INFORMATION: Isoform 7
329 <400> SEQUENCE: 14
331 Met Thr Phe Asp Asp Lys Met Lys Pro Ala Asn Asp Glu Pro Asp Gln
332 1      5      10      15
335 Lys Ser Cys Gly Lys Lys Pro Lys Glu Glu Ser Gln Arg Glu Leu Lys
336      20      25      30
339 Gly Lys Ile Asp Thr Ile Thr Arg Lys Leu Asp Glu Lys Ser Lys Glu
340      35      40      45
343 Gln Glu Glu Leu Leu Gln Met Ile Gln Asn Leu Gln Glu Ala Leu Gln
344      50      55      60
347 Arg Ala Ala Asn Ser Ser Glu Glu Ser Gln Arg Glu Leu Lys Gly Lys
348 65      70      75      80
351 Ile Asp Thr Leu Thr Leu Lys Leu Asn Glu Lys Ser Lys Glu Gln Glu
352      85      90      95
355 Glu Leu Leu Gln Lys Asn Gln Asn Leu Gln Glu Ala Leu Gln Arg Ala
356      100      105      110
359 Ala Asn Phe Ser Gly Pro Cys Pro Gln Asp Trp Leu Trp His Lys Glu
360      115      120      125
363 Asn Cys Tyr Leu Phe His Gly Pro Phe Gly Trp Glu Lys Asn Arg Gln
364      130      135      140
367 Thr Cys Gln Ser Leu Gly Gly Gln Leu Leu Gln Ile Asn Gly Ala Asp
368 145      150      155      160
371 Asp Leu Thr Phe Ile Leu Gln Ala Ile Ser His Thr Thr Ser Pro Phe
372      165      170      175
375 Trp Ile Gly Leu His Arg Lys Lys Pro Gly Gln Pro Trp Leu Trp Glu
376      180      185      190
379 Asn Gly Thr Pro Leu Asn Phe Gln Phe Phe Lys Thr Arg Gly Val Ser
380      195      200      205
383 Leu Gln Leu Tyr Ser Ser Ser Asn Cys Ala Tyr Leu Gln Asp Gly Ala
384      210      215      220
387 Val Phe Ala Glu Asn Cys Ile Leu Ile Ala Phe Ser Ile Cys Gln Lys
388 225      230      235      240

```

Use of n and / or Xaa has been detected in the
Sequence Listing. Review the Sequence Listing
to ensure a corresponding explanation is present
in the <220> to <223> fields of each sequence
using R or Xaa.

VERIFICATION SUMMARY

DATE: 07/23/2001

PATENT APPLICATION: US/09/898,554

TIME: 13:49:32

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:1502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39

L:1506 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39

L:1510 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39

L:1638 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40

L:1642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40

L:1646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40